A-3

ATTACHMENT 3

Overview of Brother MFC-9120CN Printer

Plaintiff accuses the making, using, selling, offering for sale and importation of Brother color printer models DCP 9040, DCP 9042, DCP 9045, DCP 9010CN, MFC-9010CN, MFC-9120CN, MFC-9320CW, HL-3040CN HL-3070CW, HL-4040CDN, HL-4070CDW, HL-4150CDN, HL-4570CDW, HL-4570CDWT, DCP-7030, DCP-7040, DCP-8080DN, DCP-8085DN of constituting direct infringement of U.S. Patent Nos. 6,337,746 and 6,618,157 (hereinafter "the Patents-in-Suit"). As an exemplary and typical model, the MFC-9120CN printer is charted below. The term "Accused System and Method" means the foregoing printer models sold by Brother and all other models that are substantially similar.

Plaintiff further accuses Brother of indirectly infringing the Patents-in-Suit through providing, authorizing and instructing regarding the Accused System and Method to others, including Brother's customers. Installing the Accused System and Method and the operation thereof directly infringe the asserted claims. Brother intends to cause infringement by its customers and users. Brother instructs users to install the software and associated hardware of the Accused System and Method. As such, Brother instructs users to configure and operate the Accused System and Method in an infringing manner. Brother also provides installation, maintenance and support services for the Accused System and Method, including providing instruction, tools, manuals, guides, online materials, support and consulting services.

The asserted claims include elements that are implemented, at least in part, by software in the Accused System and Method. The precise processes and algorithms used in them are held secret, at least in part, and are not publicly available in their entirety. An analysis of Brother's documentation is necessary to fully and accurately describe all infringing features and functionality of the Accused System and Method and, accordingly, plaintiff reserves the right to supplement these contentions once such information is made available to plaintiff. Furthermore, plaintiff reserves the right to revise these contentions in view of the Court's final claim construction in this action.

U.S. Patent Nos. 6,337,746 & 6,618,157

U.S. Patent No. 6,337,746

1. Apparatus for printing a graphic image on a substrate, comprising:	The Accused System and Method is designed to print on a substrate. For example, the Accused System and Method is used for cut-sheet materials. Print back to top **Print Technology** Digital Color LED **Consumable Type** Toner Cartridge & Drum Unit **Max. Black Print Speed (ppm)** 17ppm Black **Max. Color Print Speed (ppm)** 17ppm Color **Print Resolution (maximum dpi)** Up to 600 x 2400 dpi **Standard Input Paper Capacity (sheets)‡** 250 Sheet Paper Capacity **Multi-purpose Tray** Single-sheet manual bypass slot **Standard Interface(s)** Ethernet and Hi-Speed USB 2.0 **Standard Memory (MB)** 64MB **Optional Memory (MB)** Yes (up to 576MB)‡ **Printer Driver Compatibility†** Windows® & Mac OS® **Mobile device printing app‡** Brother® iPrint&Scan free app download for wireless printing (JPEG images) from and scanning to your Android™ Smartphone **Emulation(s)** PCL6 & BR-Script 3‡ **Secure Print Function** Yes **Maximum Monthly Duty Cycle‡** 25,000 pages **Recommended Monthly Print Volume‡** 300 to 1,500 pages http://www.brother-usa.com/MFC/modeldetail.aspx?PRODUCTID=MFC9120CN&tab=spec (3/31/11)
a computer containing at least one motherboard which carries a data bus and	The Accused System and Method is driven by a computer containing a motherboard with a data bus and memory. The computer is controlled by an operating system.

a random access memory, said computer being controlled by an operating system;

MFC-9120CN Supported Functions

Computer Platform & Operating System		Supported Functions	Interface
Windows® Operating System[1]	Windows® 2000 Professional[5]	Printing, PC Fax[4], Scanning	USB[3], 10/100Base-TX (Ethernet)
	Windows® XP Home Edition[2,5] Windows® XP Professional[2,5]		
	Windows® XP Professional x64 Edition[2]		
	Windows Vista®[2]		
	Windows®7[2]		
	Windows Server® 2003 (print only via network)	Printing	10/100Base-TX (Ethernet)
	Windows Server® 2003 x64 Edition (print only via network)		
	Windows Server® 2008 (print only via network)		
Macintosh® Operating System	Mac OS® X 10.3.9 - 10.4.3	Printing, PC Fax[4] Send, Scanning	USB[3], 10/100Base-TX (Ethernet)
	Mac OS® X 10.4.4 or greater		

MFC-9120CN Minimum System Requirements

Computer Platform & Operating System		Minimum Processor	Recommended RAM	Required Hard Disk Space
Windows® Operating System[1]	Windows® 2000 Professional[5]	Intel® Pentium® II or equivalent	256 MB	460 MB
	Windows® XP Home Edition[2,5] Windows® XP Professional[2,5]			
	Windows® XP Professional x64 Edition[2]	64-bit (Intel®64 or AMD64) processors	512 MB	
	Windows Vista®[2]	Intel® Pentium® 4 or equivalent 64-bit processors (Intel®64 or AMD64)	1 GB	1 GB
	Windows®7[2]		1 GB(32-bit) 2 GB(64-bit)	1.18 GB
	Windows Server® 2003 (print only via network)	Intel® Pentium® III or equivalent	512 MB	50 MB
	Windows Server® 2003 x64 Edition (print only via network)	64-bit (Intel®64 or AMD64) processors		
	Windows Server® 2008 (print only via network)	Intel® Pentium® 4 or equivalent 64-bit processors (Intel®64 or AMD64)	2 GB	
Macintosh® Operating System	Mac OS® X 10.3.9 - 10.4.3	PowerPC G4/G5 PowerPC G3 350MHz	256 MB	480 MB
	Mac OS® X 10.4.4 or greater	PowerPC G4/G5 Intel® Core™ Processor	1 GB	

Conditions:

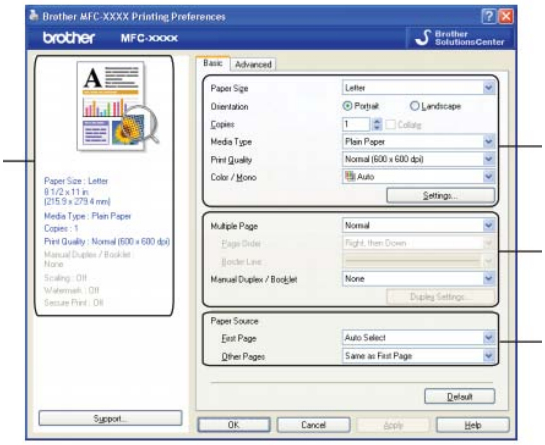
http://www.brother-usa.com/MFC/ModelDisclaimer.aspx?Model=MFC9120CN#SysReqs (3/31/11)

Full Driver & Software Package

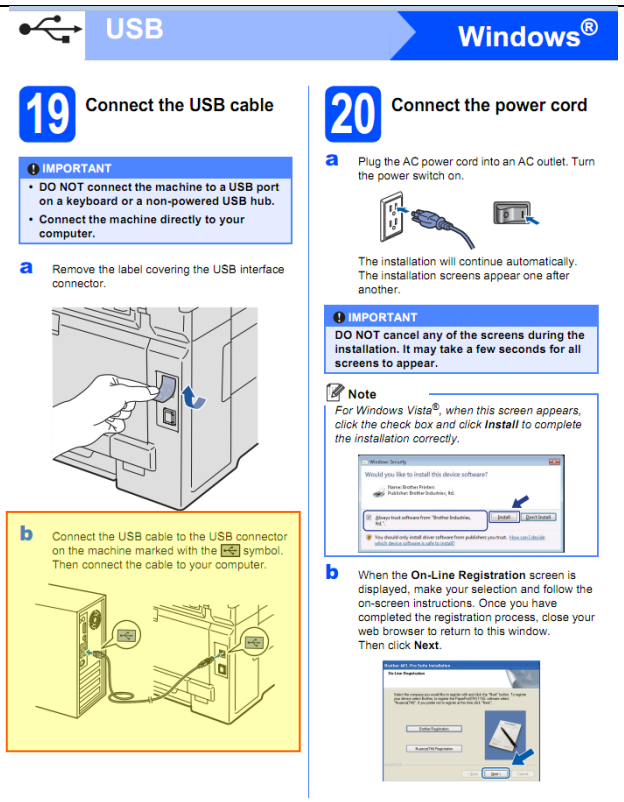
We recommend this download to get the most functionality out of your Brother machine. This is a comprehensive file c available drivers and software for the Brother machine.

Language	Version	Size	Release Date	File
English	A2	43.25MB	12/27/2010	Download & Information

http://welcome.solutions.brother.com/bsc/public/us/us/en/dlf/download_index.html?reg=us&c=us&lang=en&prod=mfc9120cn_all&dlid=&flang=English&os=7&type2=-1 (3/31/11)



http://welcome.solutions.brother.com/BSC/public/files/dlf/doc002533/cv_mfc9120cn_usaeng_soft.pdf p.13 (3/31/11)



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	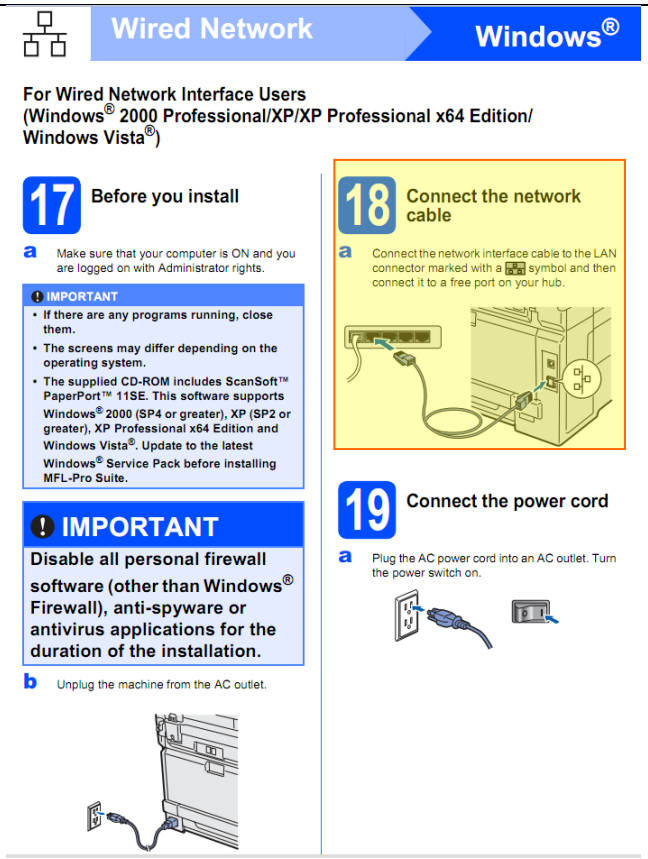 http://welcome.solutions.brother.com/BSC/public/files/dlf/doc002559/mfc9120cn_usaeng_qsg_ls8243001_a.pdf (3/31/11)
means for storing image data in said random access memory;	The Accused System and Method stores image data in RAM.

MFC-9120CN Supported Functions

Computer Platform & Operating System		Supported Functions	Interface
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	Windows®7[2]		
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	Windows Server® 2008 (print only via network)		
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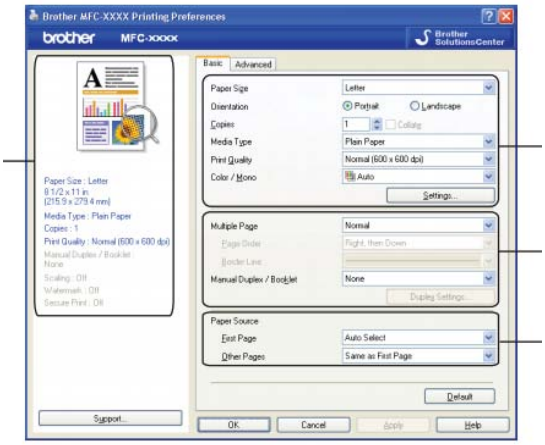
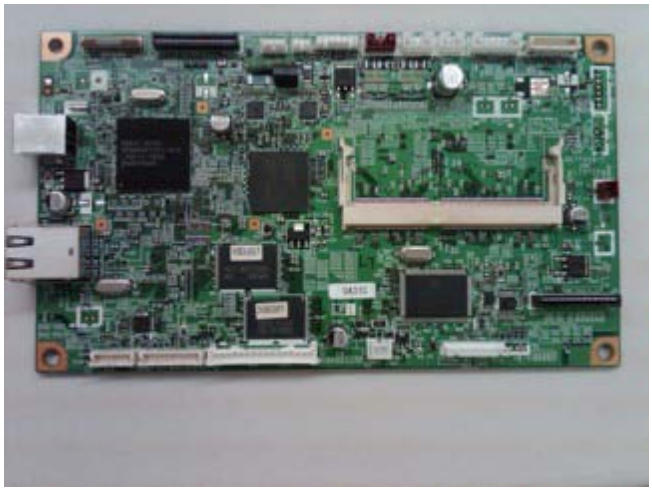
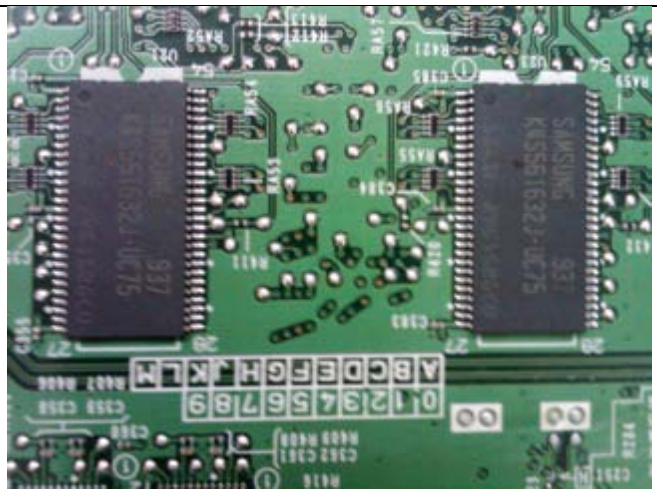
http://welcome.solutions.brother.com/bsc/public/us/us/en/dlf/download_index.html?reg=us&c=us&lang=en&prod=mfc9120cn_all&dlid=&flang=English&os=7&type2=-1 (3/31/11)

	 http://welcome.solutions.brother.com/BSC/public/files/dlf/doc002533/cv_mfc9120cn_usaeng_soft.pdf p.13 (3/31/11)
at least one interface card connected to said data bus and having a serial port connected to the data bus, a printing device interface, and means for transferring stored image data from said random access memory to said printing device interface;	The Accused System and Method incorporate an interface card connected to a data bus. The interface card includes serial ports (including Ethernet and/or USB).  USB Serial Port and Ethernet



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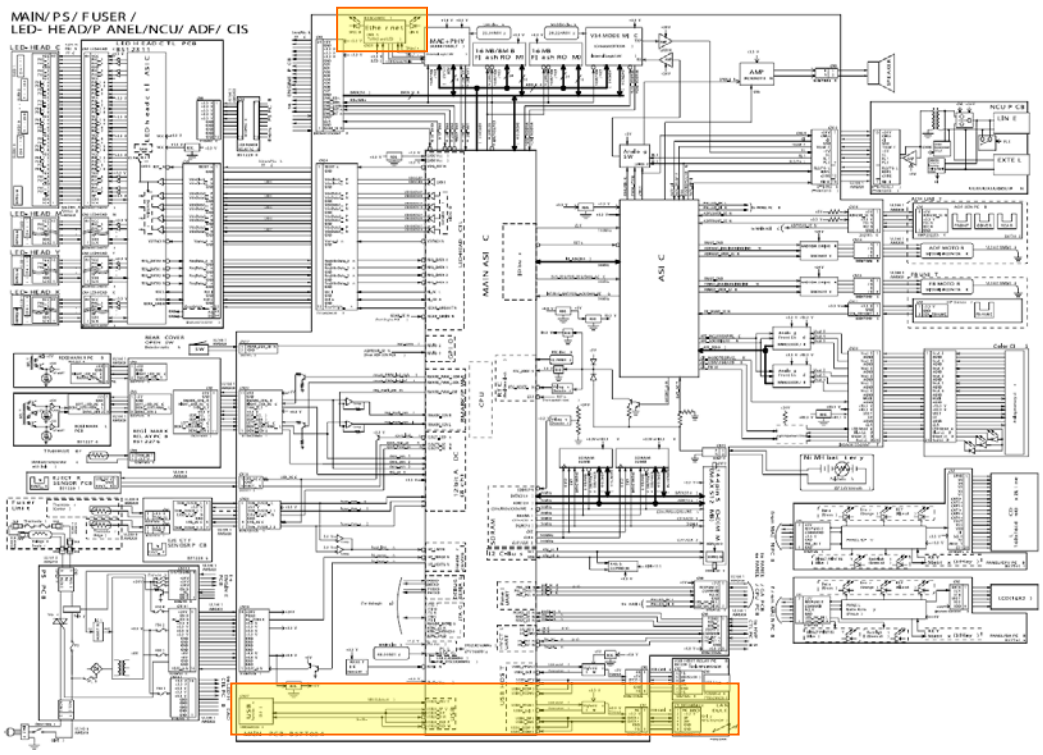
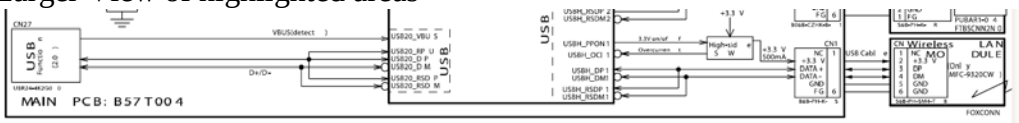
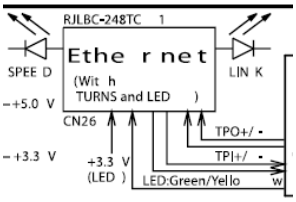
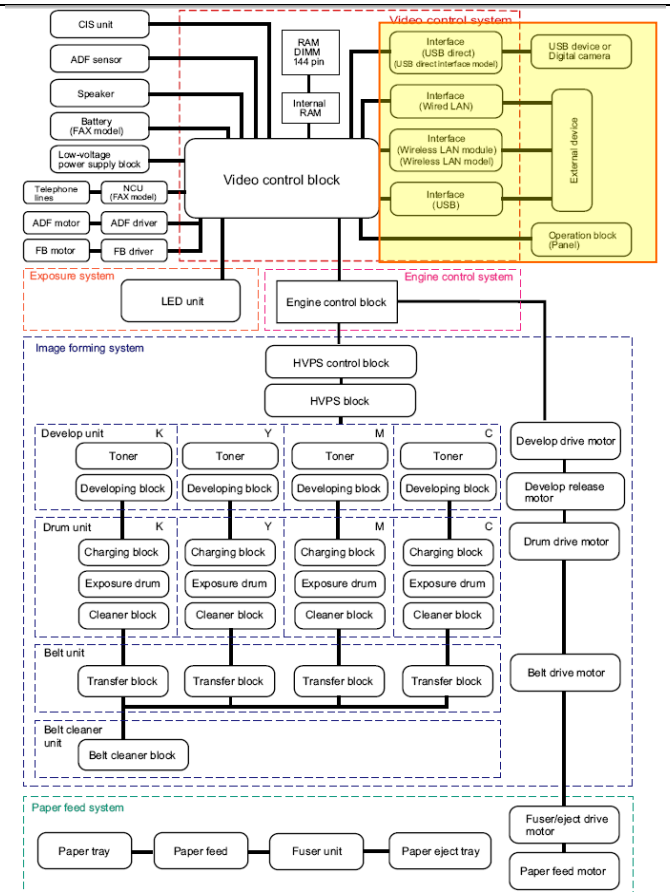


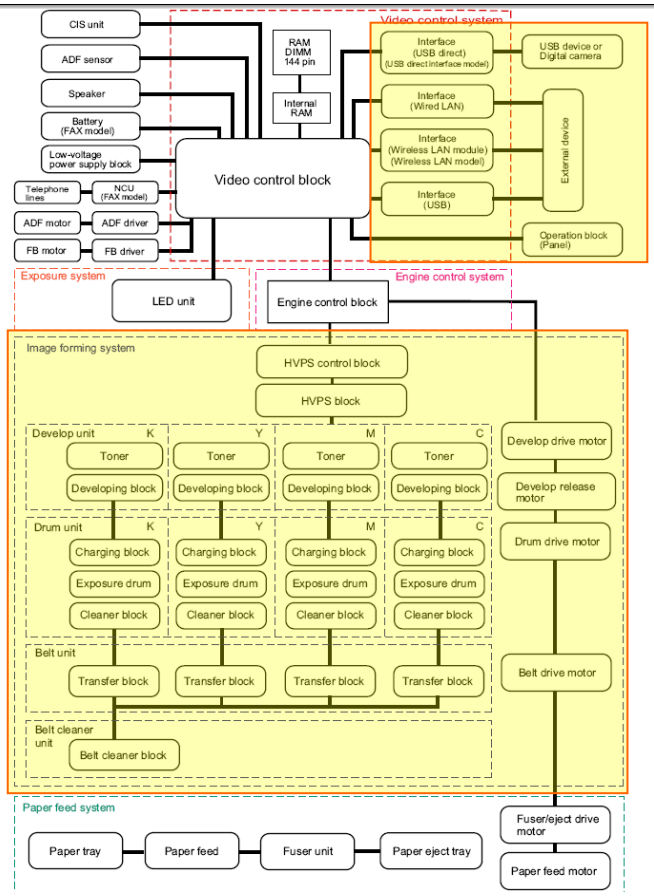
Larger View of highlighted areas



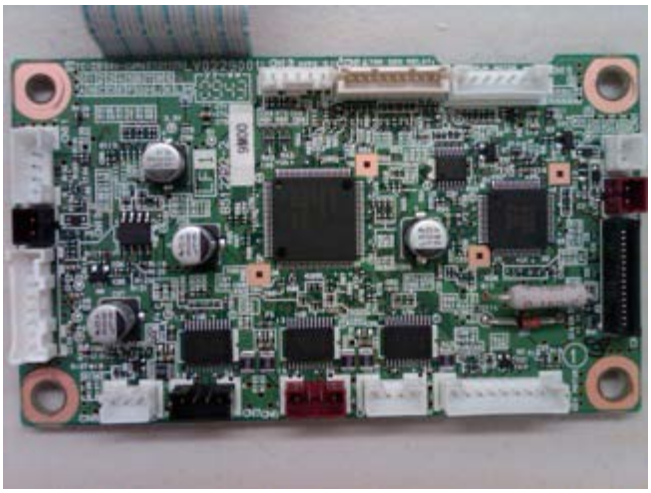


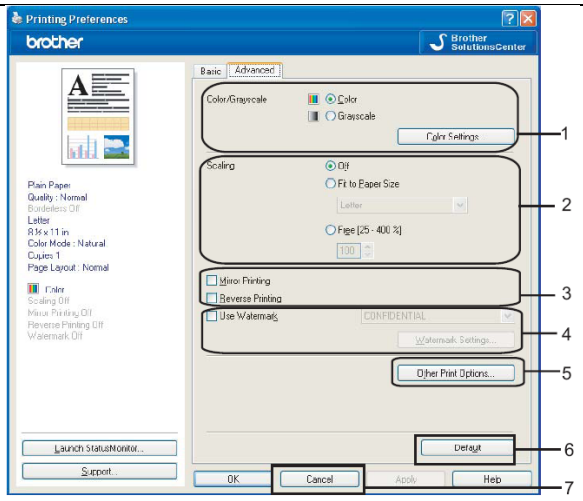
Brother MFC-9120CW Service Manual, p. 8-12

	 Brother MFC-9120CW Service Manual, p. 2-1
a digital printing device connected to said interface for printing the graphic image on the substrate on the basis of stored image data transferred from said random access memory, the digital printing device communicating with the data bus via the serial port;	The Accused System and Method include digital printing devices, which receive formatted digital data. This data is provided to the laser heads on the printer, which in turn activates to fuse color toners on print substrates to produce color images. Signals are communicated via the serial port.



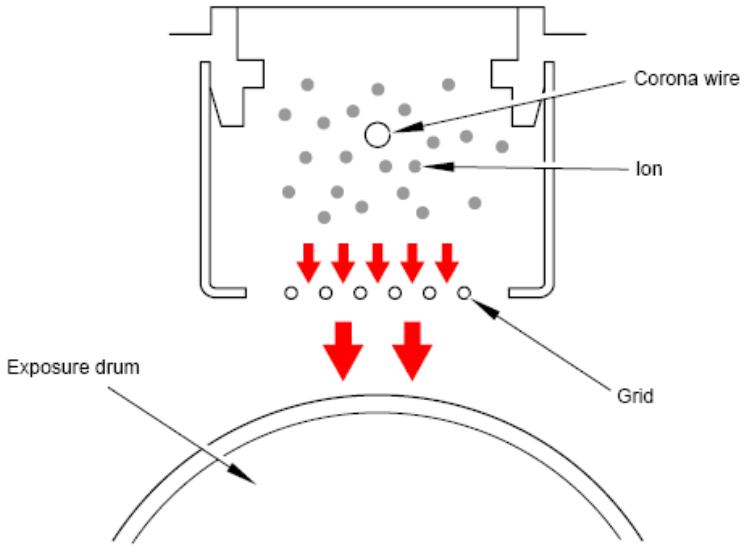
Brother MFC-9120CW Service Manual, p. 2-1



	 http://welcome.solutions.brother.com/BSC/public/files/dlf/doc002356/cv_mfc6490w_usaeng_soft_d.pdf , p.14 (3/24/11)
said printing device printing the graphic image in response to image data in a first format;	The formatted data at the printer engine is provided in a different format than the data stored in the RAM, namely a first format specific to the printing device's formatting requirements. The Accused System and Method is designed to print on a substrate. For example, the Accused System and Method is used for cut-sheet materials. Print back to top **Print Technology** Digital Color LED **Consumable Type** Toner Cartridge & Drum Unit **Max. Black Print Speed (ppm)** 17ppm Black **Max. Color Print Speed (ppm)** 17ppm Color **Print Resolution (maximum dpi)** Up to 600 x 2400 dpi **Standard Input Paper Capacity (sheets)‡** 250 Sheet Paper Capacity **Multi-purpose Tray** Single-sheet manual bypass slot **Standard Interface(s)** Ethernet and Hi-Speed USB 2.0 **Standard Memory (MB)** 64MB **Optional Memory (MB)** Yes (up to 576MB)‡ **Printer Driver Compatibility†** Windows® & Mac OS® **Mobile device printing app‡** Brother® iPrint&Scan free app download for wireless printing (JPEG images) from and scanning to your Android™ Smartphone **Emulation(s)** PCL6 & BR-Script 3‡ **Secure Print Function** Yes **Maximum Monthly Duty Cycle‡** 25,000 pages **Recommended Monthly Print Volume‡** 300 to 1,500 pages http://www.brother-usa.com/MFC/modeldetail.aspx?PRODUCTID=MFC9120CN&tab=spec

Charging

The exposure drum needs to be evenly electrified to coat toner beautifully on the exposure drum. Ions are produced by supplying high-voltage power to the corona wire. The flow of the ion charge is controlled by the constant voltage of the grid approximately 700 V and electrified the exposure drum surface evenly.



Exposure

Exposure is conducted by LED (Light Emitting Diode) arrays.
Four LED arrays for K, Y, M and C are mounted as an LED ASSY on the top cover unit of the main unit. These four LED arrays do not emit different colors corresponding to toner colors, and they are the same parts in terms of structure.

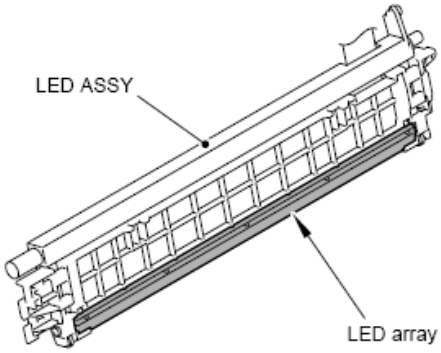


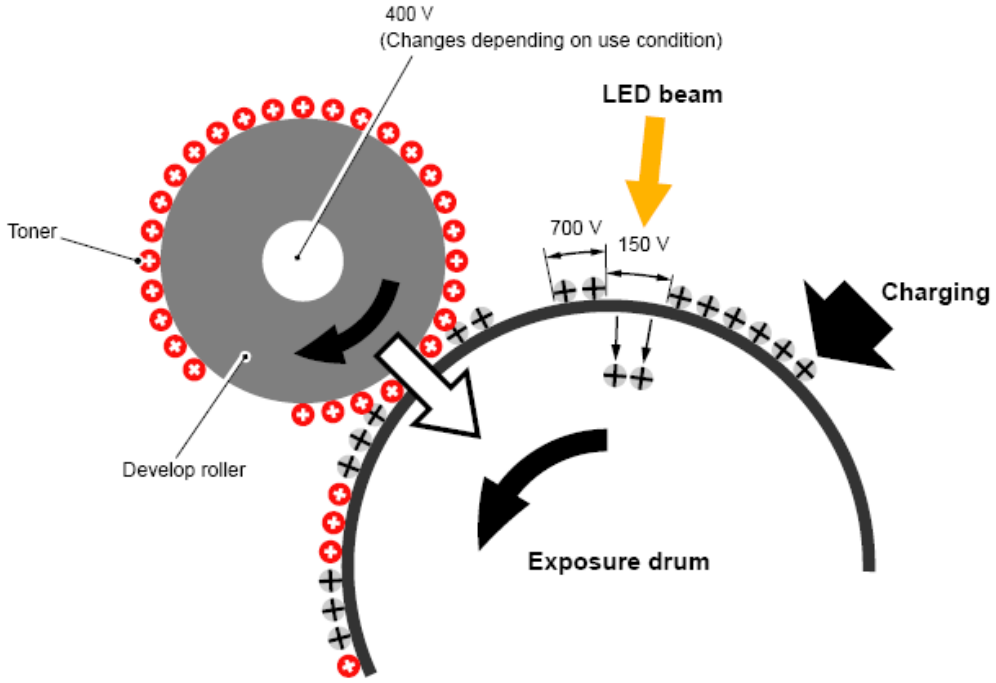
Fig. 2-22

On the PCB in the LED array, 4,992 LEDs, which correspond to the total number of the dots of the 600-dpi print head, are arranged in a staggered pattern. The lens array forms image on the exposure drum using the light emitted from the LEDs. The surface potential on the exposure drum, which is evenly charged, is lowered by exposure, and consequently image is formed.

Development

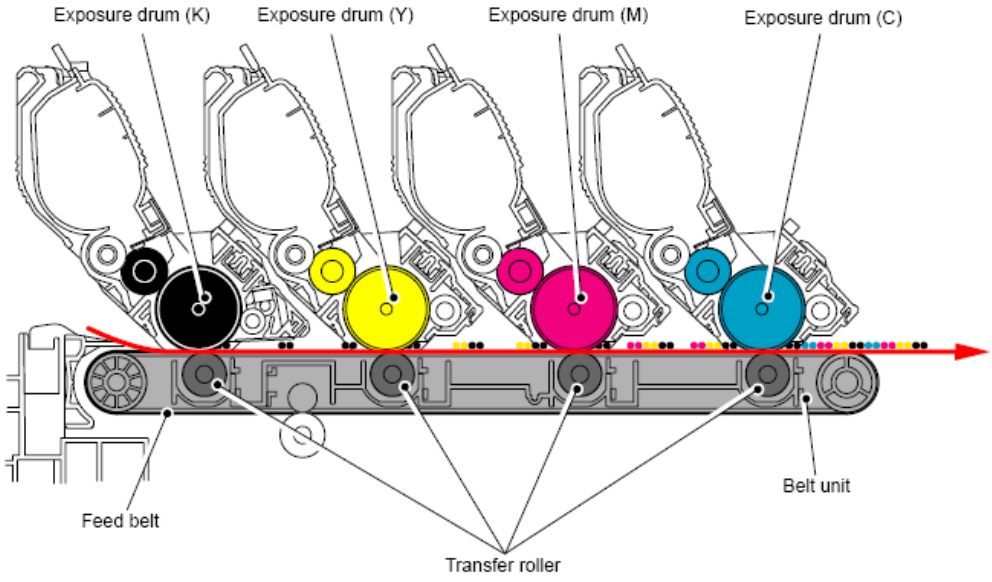
Toner is attracted to the latent-image area on the exposure drum where surface potential is lowered due to exposure.

By controlling the developing bias voltage supplied to the develop roller, the amount of toner taken to the exposure drum is adjusted to keep printing density constant.

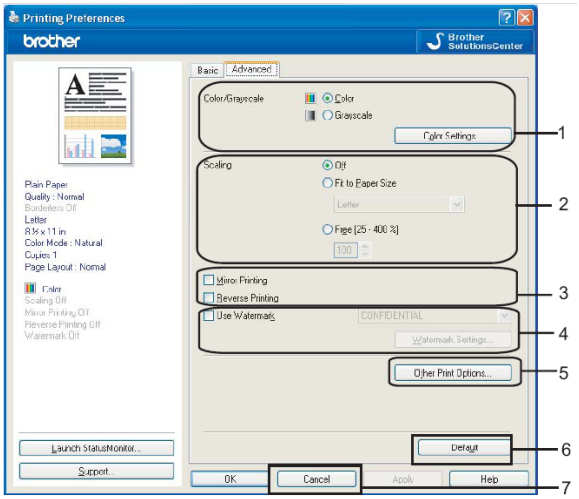
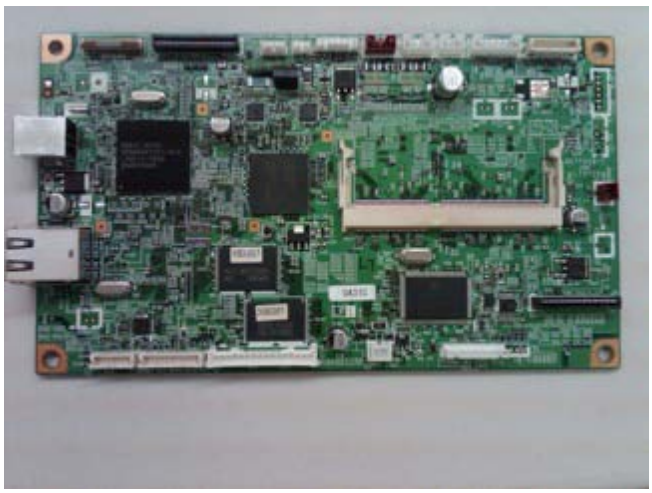


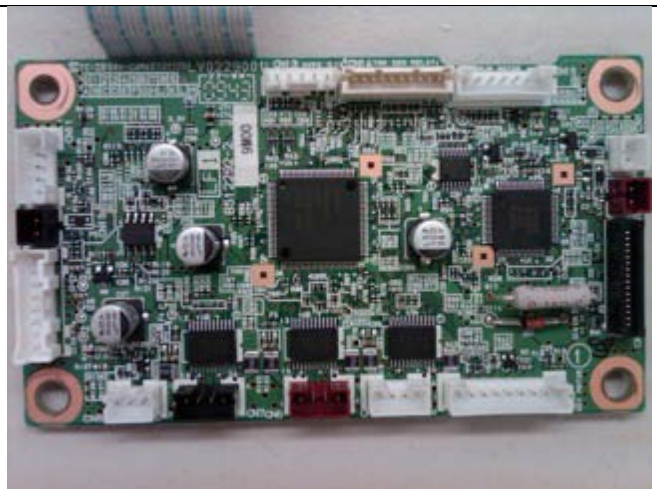
3.6.4 Transfer

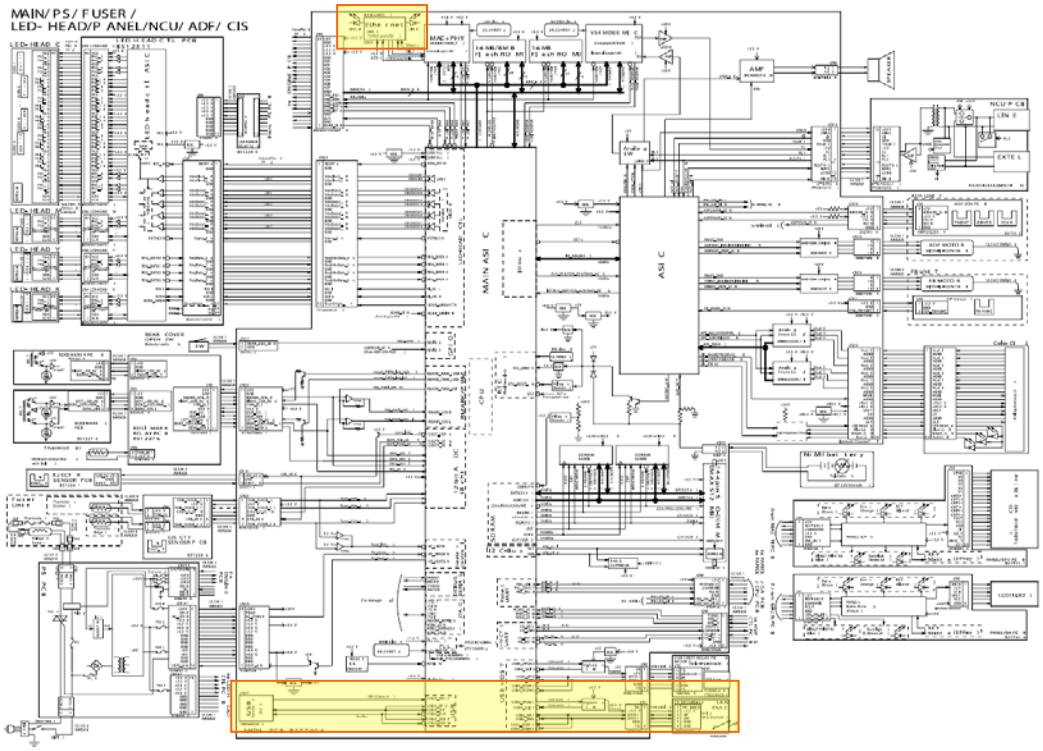
By applying a minus charge to the transfer roller of the belt unit, the toner adhered to the exposure drum is transferred to paper which is traveling on the feed belt.



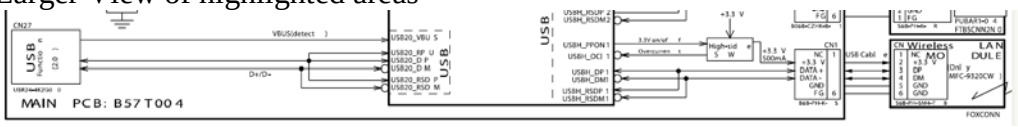
Brother MFC-9120CW Service Manual, p. 2-24 thru 2-26

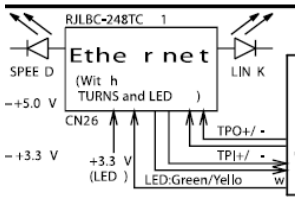
said means for storing image data storing image data in a second format different from the first format; and	RAM on the computer stores image data. The format of the stored data is different than that which is sent to the printer.  http://welcome.solutions.brother.com/BSC/public/files/dlf/doc002356/cv_mfc6490w_usaeng_soft_d.pdf , p.14 (3/24/11) **Full Driver & Software Package** **We recommend this download to get the most functionality out of your Brother machine.** This is a comprehensive file c available drivers and software for the Brother machine. | Language | Version | Size | Release Date | File | | --- | --- | --- | --- | --- | | English | A2 | 43.25MB | 12/27/2010 | Download & Information | http://welcome.solutions.brother.com/bsc/public/us/us/en/dlf/download_index.html?reg=us&c=us&lang=en&prod=mfc9120cn_all&dlid=&flang=English&os=7&type2=-1 (3/31/11)
said means for transferring stored image data comprising conversion means for converting image data in the second format into image data in the first format by multiplexing different portions of the image data in the second format and for delivering image data converted into the first format to said printing device.	Image data stored in RAM is converted and formatted (including multiplexed) for delivery to the print engine over data interfaces. 

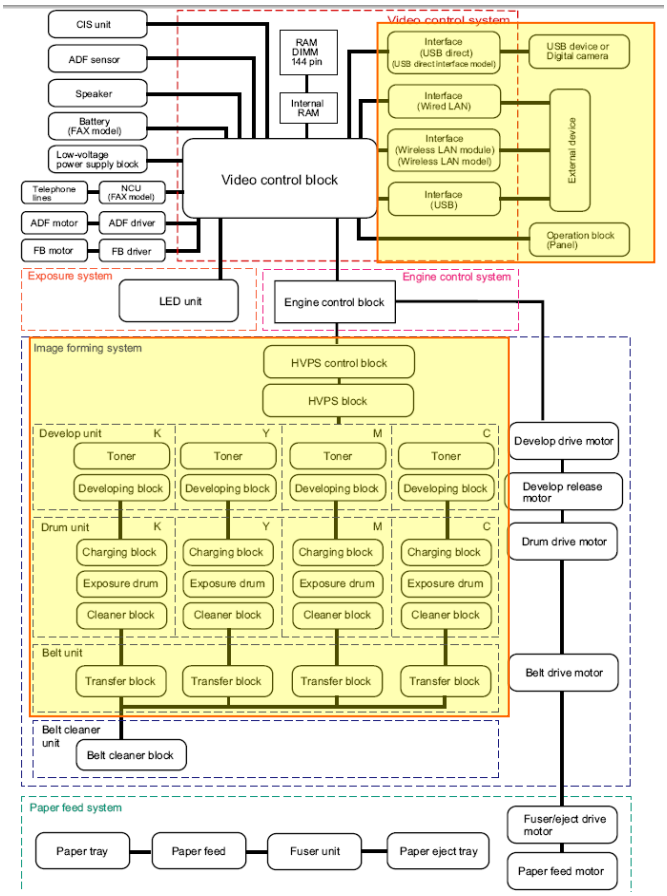




Larger View of highlighted areas





	Brother MFC-9120CW Service Manual, p. 8-12  Brother MFC-9120CW Service Manual, p. 2-1
2. The apparatus according to claim 1 wherein said means for storing image data are operative for storing a quantity of image data sufficient to print the graphic image on the entire substrate, and said means for transferring are operative for continuously transferring the quantity of image data sufficient to generate the graphic image on the entire substrate.	The Accused System and Method is driven by a computer containing a motherboard with a data bus and memory. The computer is controlled by an operating system. Images are stored in RAM. The RAM on the computer is operative to store a sufficiently large amount of image data to print an entire color graphic image on the surface of the full substrate. The interface card transfers the entire quantity of image data for generating the graphic image on the entire substrate without reloading RAM or ceasing print operations.